UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,564	07/03/2001	Kazuto Kobayashi	MM4451	4871

1109 7590 09/19/2005

ANDERSON, KILL & OLICK, P.C.
1251 AVENUE OF THE AMERICAS
NEW YORK,, NY 10020-1182

EXAMINER	
NECKEL, ALEXA DOROSHENK	
ART UNIT	**PAPER NUMBER**
1764	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/898,564	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Alexa D. Neckel	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/410,870.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 30, 2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4, line 28 recites the limitation " said upper and lower chambers", but no "lower chamber" has been recited. There is insufficient antecedent basis for this limitation in the claim.

With respect to claim 4, it is unclear how "said reactor having a single charge of granular catalyst", line 10 of the claim, can occur when the reactor is recited as possible having more than one reaction tube (lines 2 and 3 of the claim) and each tube is recited as having its own catalyst within its first passage. For examination purposes, the claim

as been interpreted as illustrated in figure 1, wherein each reaction tube comprises its own catalyst charge.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger (1,945,353).

With respect to claim 4, Jaeger discloses a catalytic apparatus which can be used for methanol production (p. 1, lines 95-99) comprising:

at least one reaction tube (formed by adjacent tubes 4);

an upper chamber (14) into which gas is fed (p. 2, lines 53-58);

an inner tube (4) disposed almost in the center of a reaction tube to form a first passageway between the inner and reaction tubes and closed at a lower end (see fig. 2 and p. 2, lines 40) and open at an upper end to a first passageway filled with catalyst (3) and surrounded by the reaction tube (see figure 7) which is then open to a lower chamber (15);

a central tube (formed by 5) disposed in the center of the inner tube (4) with the central tube extending downwardly from the upper chamber (14) fixed above said lower end of the reaction tube (see fig. 2);

an upper shielding plate (6) for partitioning the upper end of the reaction tube from the upper chamber wherein said unreacted gas flows downwards from said upper

chamber through the upper part of the central tube flowing from said second passageway through said catalyst in said first passageway from the upper end of said first passageway (p. 2, lines 53-66); and

a lower shielding plate (2) for partitioning the lower end of the reaction tube (formed by adjacent tubes 4) from the lower chamber (15).

It can be seen in figure 1 of Jaeger that the reaction tubes reasonably appear to be symmetrically placed in relation to the reactor casing.

Jaeger illustrates wherein the central tube does not span the entire length of the reaction tube in order to operate, but fails to expressly state a range of acceptable lengths. Since Jaeger fails to teach a specific length for the tube, it is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine operable lengths of tube by routine experimentation. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 5, Jaeger further illustrated wherein the inner tube (4) is disposed vertically in the reaction tube (see fig. 1).

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger (1,660,511).

With respect to claim 4, Jaeger discloses a catalytic apparatus (figure 1) which can be used for methanol production (p. 11, lines 61-72) comprising:

at least one reaction tube (formed by adjacent tubes 7);

an upper chamber (2) into which gas is fed (p. 8, lines 3-9);

an inner tube (7) disposed almost in the center of a reaction tube to form a first passageway between the inner and reaction tubes and closed at a lower end (see fig. 1) and open at an upper end to a first passageway filled with catalyst (6) and surrounded by the reaction tube (see figure 1) which is then open to a lower chamber (3);

a central tube (8) disposed in the center of the inner tube (7) with the central tube extending downwardly from the upper chamber (2) fixed above said lower end of the reaction tube (see fig. 1);

an upper shielding plate (5) for partitioning the upper end of the reaction tube from the upper chamber wherein said unreacted gas flows downwards from said upper chamber through the upper part of the central tube flowing from said second passageway through said catalyst in said first passageway from the upper end of said first passageway (see arrows of figure 1); and

a lower shielding plate (4) for partitioning the lower end of the reaction tube (formed by adjacent tubes 7) from the lower chamber (3).

It can be seen in figure 1 of Jaeger that the reaction tubes reasonably appear to be symmetrically placed in relation to the reactor casing.

Jaeger illustrates wherein the central tube does not span the entire length of the reaction tube in order to operate, but fails to expressly state a range of acceptable lengths. Since Jaeger fails to teach a specific length for the tube, it is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made

to determine operable lengths of tube by routine experimentation. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 5, Jaeger further illustrated wherein the inner tube (7) is disposed vertically in the reaction tube (see fig. 1).

Response to Arguments

35 USC 112, Second Paragraph

The 35 USC 112, second paragraph rejection presented in the previous Office Action is withdrawn due to applicant's amendments to the claim. It is noted, however, that applicant has incurred new rejections under 35 USC 112, second paragraph presented above.

35 USC 103(a)

Applicant argues that the reaction tube of Jaeger is not "symmetrically spaced" from the reactor casing.

The examiner respectfully disagrees in that the reaction tubes in figure 2 of Jaeger reasonably appear to be symmetrically spaced in relation to the reactor casing (1).

Applicant argues that the reactor of Jaeger has a lower catalyst zone which precludes the reactor of Jaeger from reading on the reactor of the instant claims.

The examiner respectfully disagrees. The instant claims contain the transitional language of "comprising" which is open claim language and does not preclude an applied reference from having more elements than those recited in the instant application. Even so, an additional rejection in view of Jaeger 1,660,511 has been applied where the lower chamber of the reactor does not have another catalyst present.

Applicant argues that due to the existence of an additional, lower catalyst zone, it does not make sense to determine an appropriate relationship between the lengths of the tubes of the upper portion.

The examiner respectfully disagrees. With or without a second lower catalyst zone, the general conditions of the claim (such as a central tube which does not span the entire length of a reaction tube) are disclosed in the Jaeger reference. As such, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alexa D. Neckel
Examiner
Art Unit 1764

September 15, 2005

Alexa Neckel
ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER